

Product Name: NKH 477

Catalog No.: 1603

Batch No.: 7

CAS Number: 138605-00-2

IUPAC Name: *N,N*-Dimethyl-(3*R*,4*aR*,5*S*,6*aS*,10*S*,10*aR*,10*bS*)-5-(acetyloxy)-3-ethenyldodecahydro-10,10*b*-dihydroxy-3,4*a*,7,7,10*a*-pentamethyl-1-oxo-1*H*-naphtho[2,1-*b*]pyran-6-yl ester β-alanine hydrochloride

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₂₇H₄₃NO₈.HCl

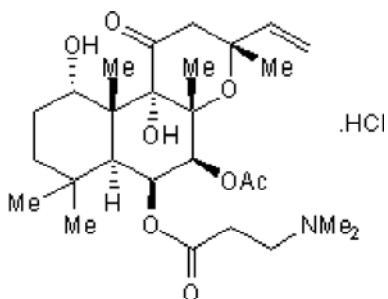
Batch Molecular Weight: 546.1

Physical Appearance: White solid

Solubility: water to 40 mM
ethanol to 15 mM
DMSO to 100 mM

Storage: Desiccate at +4°C

Batch Molecular Structure:



2. ANALYTICAL DATA

TLC: R_f = 0.25 (Chloroform:Methanol [9:1])

HPLC: Shows >98.5% purity

¹H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	59.38	8.12	2.56
Found	59.22	8.13	2.76

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Description:

Water-soluble analog of forskolin (Cat. No. 1099) that is a potent activator of adenylyl cyclase; shows some selectivity for cardiac (type V) adenylyl cyclase. Stimulates bronchodilation (EC₅₀ = 32.6 nM) and is an orally active potent positive chronotrope and hypotensive agent in vivo.

Physical and Chemical Properties:

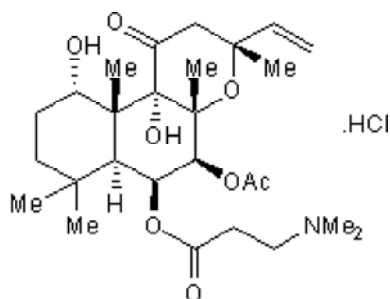
Batch Molecular Formula: C₂₇H₄₃NO₈.HCl

Batch Molecular Weight: 546.1

Physical Appearance: White solid

Minimum Purity: ≥98%

Batch Molecular Structure:



Storage: Desiccate at +4°C

Solubility & Usage Info:

water to 40 mM
ethanol to 15 mM
DMSO to 100 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Satake et al (1998) Relaxant effects of NKH477, a new water-soluble forskolin derivative, on guinea-pig tracheal smooth muscle: the role of Ca²⁺-activated K⁺ channels. *Br.J.Pharmacol.* **123** 753. PMID: 9517396.

Toya et al (1998) Forskolin derivatives with increased selectivity for cardiac adenylyl cyclase. *J.Mol.Cell.Cardiol.* **30** 97. PMID: 9500868.

Hosono et al (1992) Cardiovascular and adenylate cyclase stimulant properties of NKH477, a novel water-soluble forskolin derivative. *J.Cardiovasc.Pharmacol.* **19** 625. PMID: 1380607.

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